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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/634,606	08/05/2003	Karl-Heinz Forster	163-29 CIP	6609
23869	7590	10/21/2005		
HOFFMANN & BARON, LLP 6900 JERICO TURNPIKE SYOSSET, NY 11791			EXAMINER MACK, COREY D	
			ART UNIT 2855	PAPER NUMBER

DATE MAILED: 10/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/634,606

Applicant(s)

FORSTER ET AL. 

Examiner

Corey D. Mack

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 July 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4, 6-11, 13, 14 and 41-44 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-11, 13, 14 and 41-44 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Objections*

1. Claim 1 is objected to because of the following informalities: line 6 recites "the the". This appears to be in error. Appropriate correction is required.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4, 8-11 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tobin, et al. (US 5,131,265).

A. With respect to Claims 1 and 8, Tobin discloses a flow sensor comprising a paddle 28 being disposed at least partially in an orifice, a fluid flow 41 directed through the orifice, the paddle being displaced in response to the fluid flow; and, a support member 20 positioning the paddle at least partially in the orifice, the support member including a plurality of strain gauges 23 and/or 25 operatively configured as a Wheatstone bridge, at least one of the plurality of strain gauges being mechanically stressed in response to the paddle being displaced by the fluid flow (column 3, line 58 – column 4, line 7). Tobin does not explicitly disclose that the plurality of strain gauges are disposed on only one side of the support member. However, Tobin does disclose strain gauges used to form a Wheatstone bridge, wherein the strain gauge is mounted on only one side of the beam in order to measure deflection of the beam as flow deflects the beam (column 3, lines 1-34). Tobin also teaches that multiple strain gauges could be used in order to

increase the accuracy of the measurement (column 3, lines 50-54). Therefore, at the time the invention was made, it would have been within the knowledge of one of ordinary skill in the art to include in Tobin a plurality of strain gauges on only one side of the support member in order to more accurately sense the deflection of the paddle that indicates flow.

B. With respects to Claim 2 and 9, Tobin discloses that the paddle includes a surface area, the surface area of the paddle being adaptable to provide different displacements of the paddle in response to the fluid flow (column 3, lines 10-27).

C. With respect to Claims 3 and 10, Tobin discloses that the paddle 28 includes a first surface area, the support member 20 including a second surface area, the first surface area being unequal to the second surface area (See Fig. 2a, 2b).

D. With respect to Claim 4, Tobin discloses that the paddle does not have any electrical components mounted thereon (See Fig. 2a-4).

E. With respect to Claims 6 and 13, Tobin discloses that at least one of the plurality of strain gauges is responsive to at least one of transverse stress and longitudinal stress (See Fig. 4).

F. With respect to Claim 11, Tobin discloses that the plurality of strain gauges 23, 25 are disposed exclusively on the support member 20.

4. Claims 7, 14 and 41- 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tobin, et al. (US 5,131,265) in view of Sparks (US 5,663,508).

A. With respect to Claims 7 and 14, Tobin discloses the invention as claimed, except they do not explicitly disclose that the paddle strain gauges are piezo-resistive strain gauges. Sparks discloses a fluid flow sensor comprising a paddle disposed on a support member wherein the deflection of the vane is sensed by piezo-resistive stain gauges, as they are well suited to sense

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strain on a deflectable paddle (column 3, line 64 – column 4, line 14). Therefore, at the time the invention was made, it would have been obvious to one of ordinary skill in the art to include in Tobin piezo-resistive strain sensors in order to sense strain on the deflectable paddle.

B. With respect to Claims 41 and 43, Sparks discloses a flow device including a first mating portion 38 and second mating portion 40, the first mating portion including a first aperture 38a, the second mating portion including a second aperture 40a, the first aperture and the second aperture being at least partially aligned such that the first aperture and the second aperture define a channel 42 through the first and second mating portions when the first and second mating portions are joined together, the channel being able to communicate the medium therethrough; and, a circuit board 44 sandwiched between the first mating portion and the second mating portion, the circuit board including at least one sensor, the at least one sensor being at least partially aligned with the channel, the at least one sensor being able to detect a physical characteristic of the medium flowing through the channel (column 5, lines 40-67,. See Fig. 5-6). Sparks does not disclose that the mating portions or the circuit boards are removably joined. However, removably joining mating portions is notoriously well-known by those of ordinary skill in the art and would have been recognized at the time the invention was made in order to more easily facilitate replacement, for example. (See MPEP § 2144.03). Therefore, at the time the invention was made, it would have been within the knowledge of one of ordinary skill of the art to include in removably joining the mating portions and any element disposed therebetween in order to more easily facilitate replacement.

C. With respect to Claims 42 and 44, Sparks discloses a flow sensor comprising a paddle 18 being disposed at least partially in an orifice 42, a fluid flow directed through the orifice, the

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paddle displaced in response to the fluid flow (column 3, lines 36-39), and, a support member 14 positioning the paddle at least partially in the orifice, the support member including a plurality of strain gauges 26, the plurality of strain gauges being disposed on only one side of the support member, at least one of the plurality of strain gauges being mechanically stressed in response to the paddle being displaced by the fluid flow (column 3, line 23 - column 4, line 14).

***Response to Arguments***

5. Applicant's arguments filed July 27, 2005 have been fully considered but they are not persuasive. Applicant's arguments with respect to claims 1-4, 6-11, 13, 14, and 41-44 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Corey D. Mack whose telephone number is (571) 272-2181. The examiner can normally be reached on M-F, 8:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on (571) 272-2180. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Corey D. Mack, Esq.  
Patent Examiner  
Art Unit 2855

October 17, 2005



HARSHAD PATEL  
PRIMARY EXAMINER